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Roller Swage Machines

4777-PLC-1 Roller Swage



Eaton's model 4777 is a power-assisted roller swaging machine. The programmable logic controllers control the swaging process, electronically linked through a torque transducer, and provides a swage identical to that performed by model 6777. This kit is ideal for low volume or repair shop applications.

Eaton's manual 4777-PLC-1 Roller Swage is capable of swaging all types of internally swaged fittings including flareless, flared, fuel coupling, beam seal, ball-nose, and other hydraulic and pneumatic fittings.

- Capable of swaging up to 100 in-lb of torque
- Uses 110 Volt-60Hz, or 220 Volts-50Hz
- Swages sizes 1/4" to 1-1/2" O.D. tubing (6mm to 38mm)

Features

- Light production use, ideal for field repair
- Compact flash memory for accurate torque control
- Variable motor speed for optimum swage
- Accurate calibration in the field
- Compatible with all tubing materials
- Easy to operate and relocate

Technical Features

Weight	200 lbs (91 Kg)
Dimensions	20" W x 26.1" L x 37.8" H (508 mm W x 663 mm L x 960mm H)
Swage Capacity	130 in/lbs (1.5 Kg-M)
Tubing Size Capacity	Size 24
Tooling Specified by fitting number and Technical Information Bulletin (TIB)	
Capacity – Designed for prototype and light production use only	
Noise level	65 dba

6777-PLC-1 Roller Swage



Eaton's TorkPlus is a dual mode swaging machine capable of internally swaging tubes to fittings—either by torque control or diameter control.

An on-board microprocessor is programmed to produce:

- Pulse width modulated speed control governed by real time torque analysis, resulting in the most accurate torque control in the industry.
- Variable operating speed to obtain optimum swage on tube sizes from 1/4" (6mm)

through 1-1/2" (38.0 mm), in seconds.

- A diameter control mode option is at the operator's fingertips, and is indicated by a flashing LED display. In this mode, the model 6777 TorkPlus machine can swage other manufacturer's fittings to their inspection criteria.
- Options include:
 - On-board printout device for quality assurance records
 - In-field calibration capability

Eaton's single head Roller Swage, model 6777, is capable of swaging all types of internally swaged fittings, including flareless, flared, beam seal, ball-nose, and other hydraulic and pneumatic fittings.

- Capable of swaging up to 100 in-lb of torque
- Swages sizes 1/4" to 1 1/2" O.D. tubing (6mm to 38mm)

The model 6777 Swage is available for the following electric power sources:

- 380 VAC, 50 Hz, 3-phase
- 460 VAC, 60 Hz, 3-phase
- 220 VAC, 50/60 Hz, 3-phase

Features

- On-board programmable logic controllers (PLC) to make accurate swages
- Dual Mode—torque and diameter control
- Easy to operate with safety features
- Variable motor speed for optimum swage
- Accurate calibration in the field
- Compatible with all tubing materials
- Rolled easily within the shop for relocation
- Touch-screen controller

Technical Features

Weight	estimated 600 lbs (272 Kg)
Dimensions	26" W x 46" L x 60" H (66 cm W x 117 cm L x 152 cm H)
Swage Capacity	130 in/lbs (1.5 Kg-M)
Maximum Tubing Size Capacity	1 1/2" (-24 size) (38mm)

Pneumatic Requirements

Air Pressure Supply	80 psi - 100 psi (551.5 kPa - 689.5 kPa)
Tooling Specified by fitting number and Technical Information Bulletin (TIB)	
Capacity – Designed for production use	

Roller Swage Machines

8777-PLC-1 Roller Swage



Eaton’s double head Roller Swage, model 8777, is capable of swaging all types of internally swaged fittings including fuel couplings, flareless, flared, beam seal, ballnose, and other hydraulic and pneumatic fittings.

- Capable of swaging up to 1,500 in-lb of torque
- Uses 220, 380 or 440 volts and shop air
- Swages sizes 1/4" to 3-1/2" O.D. tubing (6mm to 89mm)

Features

- On-board programmable logic controllers (PLC) to make accurate swages
- Touch-screen controller
- Easy to operate with safety features
- Torque or diameter-control mode capabilities
- Variable motor speed for optimum swage
- Accurate calibration in the field
- Compatible with all tubing materials
- Rolled easily within the shop for relocation

Technical Features	
Weight	estimated 2000 lbs (907.2 Kg)
Dimensions	30" W x 52" L x 60" H (76 cm W x 132 cm L x 152 cm H)
Swage Capacity	1500 in/lbs (17.28 Kg-M) (Large Head)
	130 in/lbs (1.5 Kg-M) (Small Head)
Tubing Size Capacity	3 1/2" (-56 size) (Large Head)
	1 1/2" (-24 size) (Small Head)
Pneumatic Requirements	
Air Pressure Supply	80 psi - 100 psi (551.5 kPa - 689.5 kPa)
Tooling Specified by fitting number and Technical Information Bulletin (TIB)	
Capacity – Designed for production use	

3777 Portable Swaging Kit

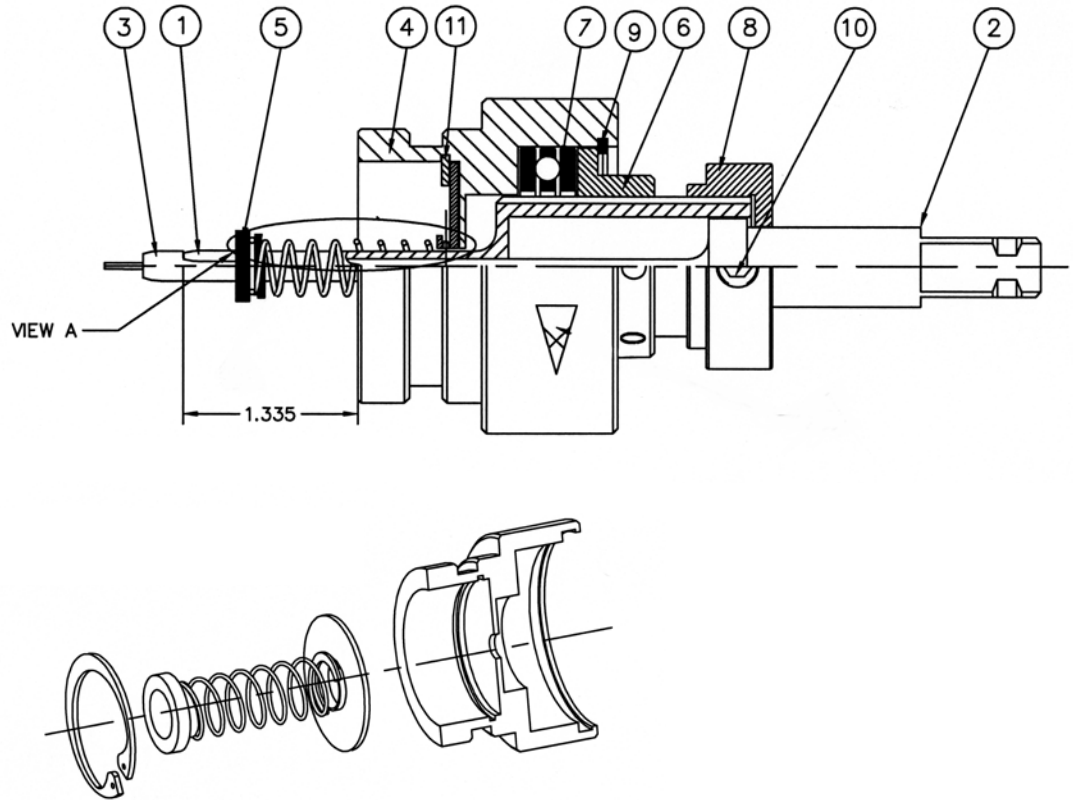
Manually Operated – Diameter Control

This tool kit is a derivative of the reliable, field-proven manual system used by OEM and the airlines for field swaging. It includes a durable, customer-fitted carrying case, suitable for flight line use, containing all tools necessary to produce a high integrity swage.

Tube Expanders

Roller Swage Assembly Tooling Flareless Fittings 7320 Series

(Example: 7320-08035 for 1/2"
[12.7 mm] OD tube, 0.035" wall)



ITEM NUMBER	QUANTITY	PART NUMBER	DESCRIPTION
1	3	7340-08035	Roller
2	1	7339-08035	Mandrel
3	1	7338-08035	Cage
4	1	7447-08	Guard
5	1	7442-08035	Roller Retainer/Spring Assembly
6	1	7314-1	Collar Adjustment
7	1	7315-1	Retainer Cap
8	1	6926-2	Thrust Bearing Assembly
9	1	1154-1	Wave-Ring
10	1	1155E1032-4	Socket Head Set Screw
11	1	1068-112	Retaining Ring - Internal

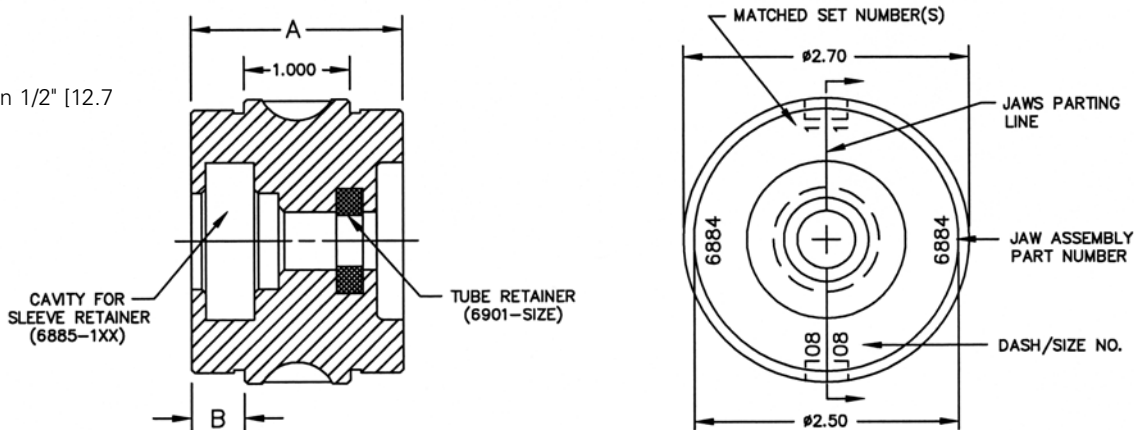
Also Available:

- 6960 Series – to be used with Lip Seal fittings
- 7175A Series – to be used with Flared fittings
- 7400 Series – to be used with 4000 psi (27580 kPa)
- 7500 Series – to be used with 5000 psi (34475 kPa)
- 8500 Series – to be used with fuel couplings

Jaw Sets

Jaw Set Assembly,
Sleeves - Roller Swage
P/N 6884

(Example: 6884-08 for use on 1/2" [12.7 mm] OD tube fittings)



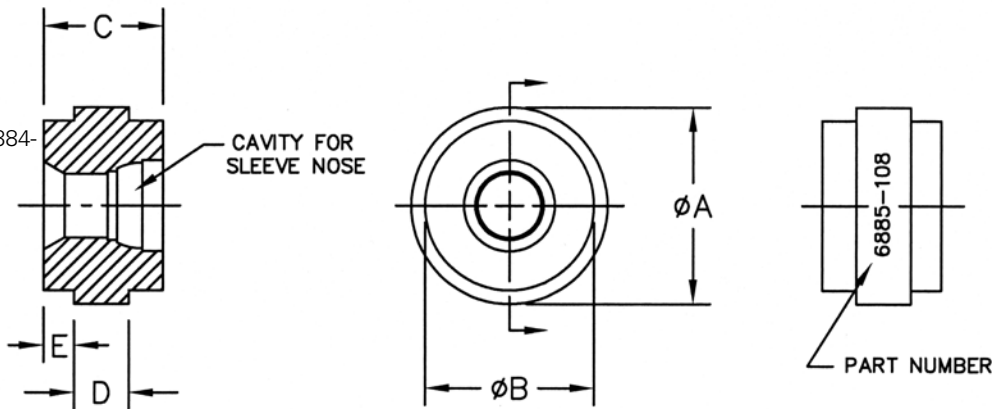
Dimensions: inches/mm

SIZE DASH NUMBER	TUBE SIZE (O.D.)	A ± .010	B	TUBE RETAINER PART NUMBER
-04	0.250/6.3	2.00/50.8	0.50/12.7	6901-04
-05	0.312/7.9	2.00/50.8	0.50/12.7	6901-05
-06	0.375/9.5	1.89/48.0	0.38/9.6	6901-06
-08	0.500/12.7	1.92/48.7	0.42/10.6	6901-08
-10	0.625/15.8	1.91/48.5	0.41/10.4	6901-10
-12	0.750/19.0	1.93/49.0	0.43/10.9	6901-12
-16	1.000/25.4	2.00/50.8	0.50/12.7	6901-16

Sleeve Retainer,
P/N 6885

For use with Jaw Sets (above)

(Example: 6885-108 for use with 6884-08 Jaw Set)



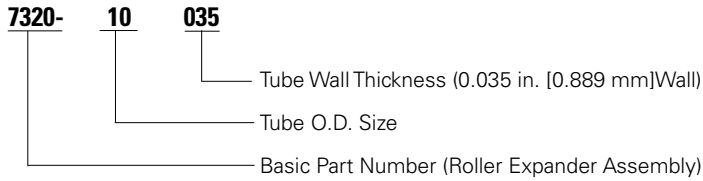
Dimensions: inches/mm

SIZE DASH NUMBER	TUBE SIZE (O.D.)	̸A	̸B	C	D	E
-104	0.250/6.3	1.45/36.8	1.24/31.4	0.75/19.0	0.33/8.3	0.22/5.5
-105	0.312/7.9	1.45/36.8	1.24/31.4	0.92/23.3	0.40/10.1	0.27/18.2
-106	0.375/9.5	1.45/36.8	1.24/31.4	0.86/21.8	0.40/10.1	0.21/5.3
-108	0.500/12.7	1.45/36.8	1.24/31.4	0.88/22.3	0.40/10.1	0.23/5.8
-110	0.625/15.8	1.95/49.5	1.49/37.8	0.97/24.6	0.47/11.9	0.22/5.5
-112	0.750/19.0	1.95/49.5	1.49/37.8	0.96/24.3	0.46/11.6	0.23/5.8
-116	1.000/25.4	1.95/49.5	1.49/37.8	1.06/26.9	0.47/11.9	0.31/7.8

Roller Swage Assemblies & Components

How to Order

Part Number Example - Roller Expander Assembly



3000 psi or Lower Pressure System

Part Number	Mandrel Part Number	Roller Part Number	Cage Part Number	Material To Be Used
7320-04016	7321-04016	7322-04016	7323-04016	Titanium and 21-6-9 CRES (3000 psi System)
7320-06019	7321-06019	7322-06019	7323-06019	
7320-08026	7321-08026	7322-08026	7323-08026	
7320-10032	7321-10032	7322-10032	7323-10032	
7320-12039	7321-12039	7322-12039	7323-12039	
7320-16051	7321-16051	7322-16051	7323-16051	
7320-04020	7339-04020	7340-04020	7338-04020	321 CRES, 304 CRES, Aluminum
7320-04082	7339-04028	7340-04082	7338-04028	
7320-04035	7339-04035	7340-04035	7338-04035	
7320-05020	7339-05020	7340-05020	7338-05020	321 CRES, 304 CRES, Aluminum, 21-6-9
7320-05028	7339-05028	7340-05028	7338-05028	
7320-06020	7339-06020	7340-06020	7338-06020	321 CRES, 304 CRES, Aluminum
7320-06026	7339-06026	7340-06026	7338-06026	
7320-06028	7339-06028	7340-06028	7338-06028	
7320-06035	7339-06035	7340-06035	7338-06035	
7320-08020	7339-08020	7340-08020	7338-08020	321 CRES, 304 CRES, Aluminum
7320-08026	7339-08026	7340-08026	7338-08026	
7320-08028	7339-08028	7340-08028	7338-08028	
7320-08032	7339-08032	7340-08032	7338-08032	
7320-08035	7339-08035	7340-08035	7338-08035	
7320-10020	7339-10020	7340-10020	7338-10020	321 CRES, 304 CRES, Aluminum
7320-10028	7339-10028	7340-10028	7338-10028	
7320-10032	7339-10032	7340-10032	7338-10032	
7320-10035	7339-10035	7340-10035	7338-10035	
7320-10042	7339-10042	7340-10042	7338-10042	
7320-10049	7339-10049	7340-10049	7338-10049	
7320-12020	7339-12020	7340-12020	7338-12020	321 CRES, 304 CRES, Aluminum
7320-12026	7339-12026	7340-12026	7338-12026	
7320-12027	7339-12027	7340-12027	7338-12027	
7320-12035	7339-12035	7340-12035	7338-12035	
7320-12039	7339-12039	7340-12039	7338-12039	
7320-12049	7339-12049	7340-12049	7338-12049	
7320-12058	7339-12058	7340-12058	7338-12058	
7320-16020	7339-16020	7340-16020	7338-16020	321 CRES, 304 CRES, Aluminum
7320-16026	7339-16026	7340-16026	7338-16026	
7320-16028	7339-16028	7340-16028	7338-16028	
7320-16035	7339-16035	7340-16035	7338-16035	
7320-16049	7339-16049	7340-16049	7338-16049	
7320-16051	7339-16051	7340-16051	7338-16051	
7320-16065	7339-16065	7340-16065	7338-16065	
7320-16083	7339-16083	7340-16083	7338-16083	



Mandrel



Cage



Roller

1000 psi or Lower Pressure System

7320-20024	7509-20024	7508-20024	7507-20024	21-6-9 CRES & Aluminum
7320-20032	7509-20032	7508-20032	7507-20032	
7320-20035	7509-20035	7508-20035	7507-20035	
7320-20060	7509-20060	7508-20060	7507-20060	
7320-20070	7509-20070	7508-20070	7507-20070	
7320-24024	7509-24024	7508-24024	7507-24024	21-6-9 CRES & Aluminum
7320-24035	7509-24035	7508-24035	7507-24035	
7320-24073	7509-24073	7508-24073	7507-24073	
7320-U-24073	7509-U-24073	7508-24073	7507-24073	
7320-32028	7509-32028	7508-32028	7507-32028	321 CRES

Three-Groove Installation Sequence

Fitting Swages to Tubing in Seconds

The following illustrations show Eaton's semi-automatic Swage in operation.

1. Install external tooling.



2. Install internal tooling.



3. Tube and fitting installation.



4. Close upper die housing.



5. Enter torque requirements.



6. Press start and move sled forward, let it complete cycle, and retract sled.



7. Remove and inspect.



8. Finished attachment. Sleeve is permanently swaged to tubing.



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